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Attorney's Docket No.: 42P17279

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Patent Application of: )

Justin K. Brask et al. )

Application No.: 10/642,546 )

Filed: August 28, 2003 )

For: SELECTIVE ETCH PROCESS FOR )  
MAKING A SEMICONDUCTOR DEVICE )  
HAVING A HIGH-K GATE DIELECTRIC )

Examiner: Unassigned

Art Unit: Unassigned

Commissioner for Patents  
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If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 12/13 2004

  
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Substitute for Form 1449/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>		
				Application Number	10/642,546	
				Filing Date	August 28, 2003	
				First Named Inventor:	Justin K. Brask et al.	
				Art Unit	Unknown	
				Examiner Name	Unknown	
				Attorney Docket Number	42P17279	
Sheet	1	of				
<b>U.S. PATENT DOCUMENTS</b>						
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)				
		US-	5,368,687	11/29/1994	Sandhu et al.	
		US-	6,432,779 B1	8/13/2002	Hobbs et al.	
		US-	6,764,898 B1	7/20/2004	En et al.	
		US-	2003/0104706 A1	6/5/2003	Mitsuhashi et al.	
		US-	2004/0203246 A1	10/14/2002	Kamath et al.	
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<b>FOREIGN PATENT DOCUMENTS</b>							
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		JP	05175174	7/13/1993	Nec Corp.		
		JP	2000216142	8/4/2000	Toshiba Corp.		
		WO	2004/021409	3/11/2004	Tokyo Electron Limited		
		WO	2004/030049	4/8/2004	Tokyo Electron Limited		

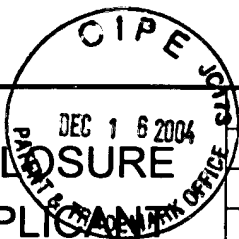
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**INFORMATION DISCLOSURE****STATEMENT BY APPLICANT**

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**Complete if Known**

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Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	42P17279

Sheet

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**NON PATENT LITERATURE DOCUMENTS**Examiner  
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Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published

T<sup>2</sup>

"Process for Selective Etching of Tantalum Oxide" IBM Technical Disclosure Bullentin, IBM Corp., New York, Vol. 27, No. 12 May 1985, page 7238, XP000807046

Christenson K., et al. "Selective Wet Etching of High-K Gate Dielectrics" Diffusion and Defect Data, Solid State Data, Part B, Solid State Phenomena, Vol. 92, 2003, pages 129-132, XP008023569

Bernet J., et al. "Wet Etch Enhancement of HfO<sub>2</sub> Films by Implant Processing", Diffusion and Defect Data, Solid State Data, Part B, Solid State Phenomena, Vol. 92, 2003, pages 11-14 XP008029227

European Search Report EP 04 01 7225

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